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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/649,492

08/27/2003

Chris Bender

FORE-104

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12/10/2008

EXAMINER

GREY, CHRISTOPHER P

ART UNIT

PAPER NUMBER

2416

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/649,492		BENDER ET AL.	
	Examiner		Art Unit	
	CHRISTOPHER P. GREY		2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,9,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,9,11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In view of applicant's amendment filed on 8/4/08, the status of the application is still pending with respect to claims 1, 4-6, 9, 11 and 12.

Response to Arguments

2. Applicant's arguments filed on 8/4/08 have been fully considered but they are not persuasive.

- a. The applicant argued with respect to claims 1, 6 and 11, 12 that the cited art does not specifically disclose an OAM path matrix which requires identifying the connection points and fault management and performance monitoring conditions (see Remarks page 8 of 13).

The examiner maintains that the limitations interpreted within its broadest scope is taught by Klink, where Klink discloses each node placing connection points in the copy of the OAM packet (**according to Para 0036 and 0037, where a location ID inserted into an OAM echo packet indicates that connection points**), each node forwarding an OAM echo packet (**according to Para 0036**) where each OAM echo packet is dedicated to monitoring and verification of connectivity (**according to Para 0031, where verification of connectivity is equivalent to fault management**), where these functions as defined above are those performed by the path matrix at each node.

Also the examiner notes that the OAM ECHO packet indicates/identifies fault management and performance conditions, where such a packet contains a bit in the information part of the packet that designates the direction of transmission and a location ID which are equivalent to monitoring conditions (according to Para 0037). The OAM ECHO packet is copied within each node (according to Para 0036), where copying data at each node is a clear indication that these echo packets containing these ID's/conditions are stored at least temporarily.

b. The applicant argued with respect to claim 1, 6 and 11 and 12 that the matrix is not a place or point from which something else originates, but is a structure which stores the connection points and the fault management and performance monitoring conditions. The examiner notes that the path matrix is not defined within the claim as being "a structure which stores". Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. The path matrix does not require a memory as defined by the claim.

c. The applicant argued with respect to claims 1, 6, 11 and 12 that the cited art does not disclose the OAM path matrix which identifies the connection points and fault management and performance monitoring conditions.

The examiner maintains that Klink discloses the required limitation as clarified within the rejection of claim 1:

"Klink discloses each node placing connection points in the copy of the OAM packet (according to Para 0036 and 0037), each node forwarding an OAM echo packet (according to Para 0036) where each OAM echo packet is dedicated to monitoring and verification of connectivity (according to Para 0031, where verification of connectivity is equivalent to fault management), where these functions as defined above are those performed by the path matrix at each node.

However Klink does not specifically disclose the OAM path matrix disposed at each node and the OAM matrix being global across the network.

Gruber is introduced in order to clarify the OAM path matrix disposed at each node (i.e. Klink discusses several of the path matrix functions being performed at each of the nodes as described above; Also see Col 4 lines 40-47 discusses monitoring and tracing being performed at any node including intermediate nodes, such as the nodes described by Klink) and the OAM matrix being global across the network (Col 4 lines 40-47, discusses the monitoring and tracing occurring at any node and is hence global seeing that the functionality is capable at each node within the network).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the method and examination of connectivity of Klink, as taught by Gruber, since stated in the abstract that such a modification will provide better management by identifying nodes through which a connection is routed between 2 nodes."

Also the examiner notes that the OAM ECHO packet indicates/identifies fault management and performance conditions, where such a packet contains a bit in the information part of the packet that designates the direction of transmission and a location ID which are equivalent to monitoring conditions (according to Para 0037). The OAM ECHO packet is copied within each node (according to Para 0036), where copying data at each node is a clear indication that these echo packets containing these ID's/conditions are stored at least temporarily.

d. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

e. In response to the applicant's arguments that the cited art does not disclose placing connection points along the path, the examiner points to fig 2 of Klink, where CP's represent connection point in a node, where the presence of these connection points indicates that these connection points have been assigned/placed. Furthermore, Klink discloses in Para 0039 signaling using a feedback channel, where the nodes route data through the connection points defined (i.e. the claim does not define "placing connection points", where specifically the word placing is interpreted broadly as using or routing data).

Claim Objections

3. Claims 4-5 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 depends on cancelled claim 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

4. Claims 1, 4, 6, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klink (US 20050147050) in view of Gruber et al. (US 6563795), hereinafter referred to as Gruber.

Regarding claim 1 Klink discloses a first node and second node (**fig 2 TLN 1 and TLN 2 respectively**) in communication with the network (see fig 1 for network).

Klink discloses at least one intermediate node in communication with the first node and the second node through the network (**fig 2, N1-N4 are equivalent to intermediate nodes and form a network**), the first node repeatedly (**Para 0034, connectivity is checked repeatedly every time an MPLS network is brought into service or every time a complaint is made**) sending signaling (**Para 0041, process can be achieved in that signaling methods are used**) through the intermediate node to the second node (**Para 0032, OAM-ECHO packet sent in the source and Para 0036**) and receiving the signaling back (**Para 0039, feedback**) to establish and maintain a connection between the first node, second node and intermediate node (**Para 0034, checks connectivity of path**).

an OAM matrix for placing connection points along the path through which the connection is established (**Para 0037, location ID is inserted into OAM ECHO**

packet, where the location ID contains the assigned connection point) each time after signaling from the first node to the second node returns to the first node (Para 0039, copied OAM-ECHO packet, containing assigned connection point/s is sent back to source).

The OAM matrix creates fault management and performance monitoring conditions in the first second and intermediate nodes **(Para 0021, discusses monitoring and Para 0005 discusses fault management)**

Identifying the connection points **(Para 0037, location ID is inserted into OAM ECHO packet, where the location ID contains the assigned connection point)** and the fault management and performance monitoring conditions **(Para 0021, discusses monitoring and Para 0005 discusses fault management)**

And instructs signaling code where to place connection points and types across the connection **(Para 0037, ID of connection point is inserted into OAM ECHO packet which is equivalent to signaling, and Para's 0022-0023 define the types of connections A and B)**

the OAM matrix maintaining the configuration during times of reroute rest failover or reboot **(where a connection is obviously maintained b/w two endpoints in the event of failover or reroute)**

Klink discloses each node placing connection points in the copy of the OAM packet **(according to Para 0036 and 0037)**, each node forwarding an OAM echo packet **(according to Para 0036)** where each OAM echo packet is dedicated to monitoring and verification of connectivity **(according to Para 0031, where verification**

of connectivity is equivalent to fault management), where these functions as defined above are those performed by the path matrix at each node.

However Klink does not specifically disclose the OAM path matrix disposed at each node and the OAM matrix being global across the network.

Gruber is introduced in order to clarify the OAM path matrix disposed at each node **(i.e. Klink discusses several of the path matrix functions being performed at each of the nodes as described above; Also see Col 4 lines 40-47 discusses monitoring and tracing being performed at any node including intermediate nodes, such as the nodes described by Klink)** and the OAM matrix being global across the network **(Col 4 lines 40-47, discusses the monitoring and tracing occurring at any node and is hence global seeing that the functionality is capable at each node within the network).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the method and examination of connectivity of Klink, as taught by Gruber, since stated in the abstract that such a modification will provide better management by identifying nodes through which a connection is routed between 2 nodes.

Regarding claim 4, Klink does not specifically disclose the placing means placing the connection points according to the OAM path matrix based on a number of hops to the second node from the first node.

Gruber discloses the placing means placing the connection points **(Col 1 lines 33-35, where the node is equivalent to a connection point, and Col 3 lines 6-10, where placing occurs when the identity of the node/CP is found and traced)** according to the OAM path matrix based on a number of hops to the second node from the first node **(Col 4 lines 10-11, where the identity of a node i links or i hops away can be found, where identifying this node from the loopback cell thus places a connection point).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the method and examination of connectivity of Klink, as taught by Gruber, since stated in the abstract that such a modification will provide better management by identifying nodes through which a connection is routed between 2 nodes.

Regarding claim 6. Klink discloses sending signaling repeatedly from a first node through an intermediate node to a second node of a network, the first node, second node and intermediate node defining a path **(Para 0041, process can be achieved in that signaling methods are used and Para 0034, connectivity is checked repeatedly every time an MPLS network is brought into service or every time a complaint is made and fig 2, N1-N4 are equivalent to intermediate nodes);**

receiving the signaling back at the first node to establish and maintain a connection between the first node, second node and intermediate node **(Para 0039, feedback and Para 0034, checks/maintains connectivity of path);** and

placing connection points dynamically along the path through which the connection is established (**Para 0037, location ID is inserted into OAM ECHO packet, where the location ID contains the assigned connection point**) after signaling from the first node to the second node returns to the first node (**Para 0039, copied OAM-ECHO packet, containing assigned connection point/s is sent back to source**),

including creating fault management and performance monitoring conditions in the first, second and intermediate nodes(**Para 0021, discusses monitoring and Para 0005 discusses fault management**)

And instructs signaling code where to place connection points and types across the connection (**Para 0037, ID of connection point is inserted into OAM ECHO packet which is equivalent to signaling, and paras 0022-0023 define the types of connections A and B**)

the OAM matrix maintaining the configuration during times of reroute rest failover or reboot (**where a connection is obviously maintained b/w two endpoints in the event of failover or reroute**)

Klink does not specifically disclose an OAM matrix disposed at each node and the OAM matrix being global across the network

Gruber discloses an OAM path matrix disposed at each node (**Col 4 lines 40-47, discusses the monitoring and tracing occurring at any node and is hence global seeing that the functionality is capable at each node within the network**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the method and examination of connectivity of Klink, as taught by Gruber, since stated in the abstract that such a modification will provide better management by identifying nodes through which a connection is routed between 2 nodes.

Regarding claim 9, Klink does not specifically disclose the placing means placing the connection points according to the OAM path matrix based on a number of hops to the second node from the first node.

Gruber discloses the placing means placing the connection points **(Col 1 lines 33-35, where the node is equivalent to a connection point, and Col 3 lines 6-10, where placing occurs when the identity of the node/CP is found and traced)** according to the OAM path matrix based on a number of hops to the second node from the first node **(Col 4 lines 10-11, where the identity of a node i links or i hops away can be found, where identifying this node from the loopback cell thus places a connection point).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the method and examination of connectivity of Klink, as taught by Gruber, since stated in the abstract that such a modification will provide better management by identifying nodes through which a connection is routed between 2 nodes.

Regarding Claim 11 Klink discloses a first node and second node (**fig 2 TLN 1 and TLN 2 respectively**) in communication with the network (**fig 1 or fig 2, where all of the components combined is equivalent to a network**).

at least one intermediate node in communication with the first node and the second node (**fig 2, N1-N4 are equivalent to intermediate nodes**) through the network (**fig 2, where intermediate nodes N1-N4 are considered to be within a network**),

the first node repeatedly (**Para 0034, connectivity is checked repeatedly every time an MPLS network is brought into service or every time a complaint is made**) sending signaling (**Para 0041, process can be achieved in that signaling methods are used**) through the intermediate node to the second node (**Para 0032, OAM-ECHO packet sent in the source and Para 0036**) and receiving the signaling back (**Para 0039, feedback**) to establish and maintain a connection between the first node, second node and intermediate node (**Para 0034, checks connectivity of path**).

Means for placing connection points along the path through which the connection is established (**Para 0037, location ID is inserted into OAM ECHO packet, where the location ID contains the assigned connection point**) after signaling from the first node to the second node returns to the first node (**Para 0039, copied OAM-ECHO packet, containing assigned connection point/s is sent back to source**).

The placing means also creates fault management (**Para 0005 discusses fault management procedures**) and performance monitoring condition (**Para 0030 discusses performance monitoring**)

Identifying the connection points at a node (**Para 0037**)

Identifying fault management and performance monitoring at a node (**Para 0021, discusses monitoring and Para 0005 discusses fault management**)

Klink does not specifically disclose the placing means includes an OAM path matrix disposed at each node and the placing means placing the connection points according to the OAM path matrix based on a number of hops to the second node from the first node.

Gruber discloses the placing means includes an OAM path matrix disposed at each node (**Col 4 lines 40-47, discusses the monitoring and tracing occurring at any node**)

and the placing means placing the connection points (**Col 1 lines 33-35, where the node is equivalent to a connection point, and Col 3 lines 6-10, where placing occurs when the identity of the node/CP is found and traced**) according to the OAM path matrix based on a number of hops to the second node from the first node (**Col 4 lines 10-11, where the identity of a node i links or i hops away can be found, where identifying this node from the loopback cell thus places a connection point**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the method and examination of connectivity of Klink, as taught by Gruber, since stated in the abstract that such a modification will provide better management by identifying nodes through which a connection is routed between 2 nodes.

Regarding claim 12,

Klink discloses sending signaling repeatedly from a first node through an intermediate node to a second node, the first node, second node and intermediate node defining a path (**Para 0041, process can be achieved in that signaling methods are used and Para 0034, connectivity is checked repeatedly every time an MPLS network is brought into service or every time a complaint is made and fig 2, N1-N4 are equivalent to intermediate nodes**);

receiving the signaling back at the first node to establish and maintain a connection between the first node, second node and intermediate node (**Para 0039, feedback and Para 0034, checks/maintains connectivity of path**); and

placing connection points dynamically along the path through which the connection is established (**Para 0037, location ID is inserted into OAM ECHO packet, where the location ID contains the assigned connection point**) after signaling from the first node to the second node returns to the first node (**Para 0039, copied OAM-ECHO packet, containing assigned connection point/s is sent back to source**),

including creating fault management and performance monitoring conditions in the first, second and intermediate nodes(**Para 0021, discusses monitoring and Para 0005 discusses fault management**)

including the step of identifying the connection points (Para 0037, location ID is inserted into OAM ECHO packet) and the fault management and performance monitoring conditions (Para 0021, discusses monitoring and Para 0005 discusses fault management).

Klink does not specifically disclose OAM (operation and management) path matrix disposed at each node and including the step of placing the connection points according to the OAM path matrix based on a number of hops to the second node from the first node.

Gruber discloses OAM (operation and management) path matrix disposed at each node **(Col 4 lines 40-47, discusses the monitoring and tracing occurring at any node)**

and including the step of placing the connection points **(Col 1 lines 33-35, where the node is equivalent to a connection point, and Col 3 lines 6-10, where placing occurs when the identity of the node/CP is found and traced)** according to the OAM path matrix based on a number of hops to the second node from the first node **(Col 4 lines 10-11, where the identity of a node i links or i hops away can be found, where identifying this node from the loopback cell thus places a connection point).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the method and examination of connectivity of Klink, as taught by Gruber, since stated in the abstract that such a modification will provide better management by identifying nodes through which a connection is routed between 2 nodes.

5. Claims 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klink (US 20050147050) in view of Gruber et al. (US 6563795), hereinafter referred to as Gruber in further view of Patil et al. (US 7313087), hereinafter referred to as Patil.

Regarding claim 5, The combined teachings of Klink and Gruber do not specifically disclose wherein the connection is an ATM SPVX.

Patil discloses wherein the connection is an ATM SPVX (**see abstract for communication b/w switches/nodes being connected via an SPVX connection**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the combined teachings of Klink and Gruber as taught by Patil, since stated in Col 1 lines 15-20, that such a modification will provide PVC services via these connections.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER P. GREY whose telephone number is (571)272-3160. The examiner can normally be reached on 10AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moe Aung can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2416

/Christopher P Grey/
Examiner, Art Unit 2416